7. Working visit at the Richard Novati Catholic Hospital

Sogakope / Ghana

20th to 27th November 2019
Hans-Peter Spielmann

20.11.19 Day of travel to Sogakope

My very heavy luggage, equipped with a ceramic press oven and a vacuum pump, as a replacement for the defect device in Sogakope, as well as various maintenance material, I had already checked in the night before at the airport, so that I did not have to be so early at the airport in Zurich, at the day of my departure to Accra via Amsterdam.

In Accra, Kofi the driver of the hospital and Musah Thomson, the hospital electrician, were waiting for me. The night had long since been raised over the city. As always, Kofi drove us safely to Sogakope, 120 km away. With his many years of driving experience, he seems to have memorized every threshold and every pothole on the road in his head and steered carefully over it or elegantly around it through the dark night. Faustina and her team, responsible for the clean accommodations in the volunteer camp as well as the daily cooking for our well-being, made out of a mix of Ghanaian and Italian cuisine, waited with a small snack to strengthen after the long journey, before about midnight, I could slip tired into the clean bed in my accommodation.

21.11.19 Greetings and getting an overview

The first working day begun and runs like a ritual, welcomed by the administrator Adolf Bansah, Dr. Cyril Bansah, the clinic chief of the hospital, Dr. Cham Momodou, the team of the dental clinic: The dentist Dr. Selasie Akpaloo, two new young employees of the laboratory Jennifer Lamptey and Atsu Seworun. Henry Mishiwo, senior dental technician, was "on leave" this week, which I very much regretted and found as an inconvenient chosen time, because my presence here at the laboratory was well known in advance. Later, Simon, a dental assistant, and Rosi, a dental hygienist with her baby tied to her back, also showed up for work. Around noon, although "on leave", Henry the dental technician appeared to say "hello". I was able to talk to Henry and convince him to postpone his vacation until my departure, because I had planned a lot to do with the laboratory team.

The new windows in the laboratory caught my eyes. In order to prevent the extreme formation of dust and dirt in the laboratory and over all the equipment because of the very poorly closing sashs windows, which are actually very common in Ghana, had been replaced according my recommendation by entire glass windows.

The continuous dusting from the outside with the high humidity put enormous damage to the equipment of this laboratory and especially to the devices and is preventing their functionality.

Common glazing, sashs windows

New glazing, all-glass windows

The gas and oxygen bottles were removed from the laboratory and set up for safety reasons in the designated machine house, where the compressor of the dental clinic is also placed. For this purpose, new supply lines for gas and oxygen had to be laid to the laboratory. These two important changes were made to my full satisfaction by the hospital management last year. These improvements were financed by donations from Switzerland.

The machine house placed behind the dental clinic for the large compressor of the clinic the gas and oxygen bottles for the laboratory.

My first task today was to put together the ceramic press oven brought in for replacement of the broken one, connect it to electricity and compressed air and to carry out test runs. But now we already had a small problem, in the room where the device must be placed was no air connection. The new model works slightly differently than the defected device. The pressing process is carried out hydraulically by compressed air, while in the case of the broken equipment an electric motor takes over this function. I knew that there was a small mobile compressor in the lab, which I wanted to connect, but to my annoyance I had to realize that it was no longer working because the air reduction valve was damaged – nice surprise! We provisionally established with an extension hose the air connection to a remote connection in the adjoining room. The first tests without pressing were successful. Jennifer and Atsu now had to model a crown in wax and embed it in the embedding compound provided for this procedure. Later in the afternoon we were able to find to our satisfaction that the pressing process was also working.

Now there is not so much dental work to be done in the laboratory. This is just good with my program, since I had planned to do practical training with the laboratory team during my stay, making metal ceramic and all-ceramic crowns. Jennifer and Atsu each had to model, embed and cast a crown cap with a non-precious metal alloy. Henry was busy making a temporary acrylic bridge for a patient from Gambia who had travelled

specifically for her dental treatment to this dental clinic, because there was no one in Gambia who could have helped her for her dental problem. Dr. Akpaloo's dental team can be very proud of the trust placed in them.

22.11.19 Training and more equipment with problems

Musah the electrician, informed me last night about two other non-functioning devices, where he no longer knows how to repair it. Well, I'm not an electronics technician, I'm a dental technician. But I will look at the things these days and I can possibly contact the manufacturers by e-mail and describe the problem. I had also brought some spare light fixtures along in my luggage. At my request, Musah had to replace the defective ones. I then asked him to install the new heating sensors I brought with me for the polymerization pressure unit. The device reported errors during heating. Dieter Riklin, who was on site with his teammates Peter Stirnimann and Ueli Iseli from GSHT (Ghana Switzerland Hospital Technicians) last August-September, had done already a good job to resolve this problem. Dieter removed the two possible defective sensor cables from the device and later organized new ones in Switzerland and handed them over to me before I left for Ghana.

Jennifer and Atsu are busy following my instructions for crown making. they must show me all the intermediate steps, if necessary, I make appropriate corrections. Henry is busy working for the clinic so that the two young technicians can devote themselves to their training.

Musah had problems trying to install the sensors. The new Micro connectors had a different shape than the original ones. So, he tried to incorporate the fine cables into the old plug. This attempt also did not stop the error message on the display. I contacted Dieter in Switzerland via WhatsApp, wanted to know how the new color coding of the wires corresponded to the old ones, because, I assumed that the new wires were swapped. Ok, I wait for the answer!

I tried to find out more about the problem with the old ceramic press oven. When starting up and let running the automatically checking, the display always reported the same errors one after the other and then stopped the run, no button helped to move the device. Only by interrupting the power could the initial procedure be started again until the device stopped at the same position again. I have recorded every error message with photo, described in detail and sent by e-mail to Mr. Andreas Meier, Sales Manager for Africa of Ivoclar Vivadent, with the request to forward the mail to the service department. The response from the head of service department, Mr. Lechner, came immediately: On Monday morning the team will be discussing early in the morning my descriptions and then giving me instructions.

Jennifer and Atsu by now have prepared each two crowns in wax to produce all-ceramic crowns. These will be embedded on Monday morning and processed in the IPS e.max ZirPress processing technique, a sponsored product of Ivoclar Vivadent. Dr. Akpaloo pays a look into the laboratory at every free opportunity and is very much interested in our work. Before everyone left for the weekend, we discussed in detail what is planned for Monday. The goal until my return on Wednesday is that all of them had to exercise three crowns up to the finish, along with the usual work for the clinic.

23.11.19 Manioc and struma of the thyroid gland (crop, goiter)

After the morning run, I try to go jogging every other day in the morning, and the solid, rich breakfast with all the fresh, mature fruits, such as pineapples, papayas, mangoes and bananas, I went to the lab and could check on my own through all the materials available. I wanted to make sure that on Monday we would have everything at our disposition for the work I had planned.

In addition to me, three other volunteers are currently on duty at the hospital. Lorenzo Mazzucco, an Italian alternative medicine practitioner, examines patients for possible diseases or weaknesses of the organism based on an eye diagnosis. According to Wikipedia:

“Iridology, Iris Diagnostics, is an alternative medical diagnostic method that assumes that human diseases can be detected by analyzing the tissue structures of the iris. It could not be empirically substantiated or theoretically justified.”

Dr. Hans-Peter J. Mühlig, physician for surgery and trauma surgery, has been working twice for six weeks a year in Ghana for the past ten years through the GRVD, "German Rotary Volunteer Doctors". Dr. Mühlig performs various operations on tumors and hernias during his visits. In most cases, he is engaged in thyroid surgery (crop removal). The cause of the large occurrence of the struma is iodine deficiency and is partly due to the widespread diet by the cassava plant (manioc), known as a large protein donor and an important daily staple. The roots contain a high content of starch as well as vital vitamins and minerals also the trace element iodine, the leaves of the plant are rich in proteins. The taste of cassava is from sweet to bitter. The disadvantage of cassava, however, is, especially with the bitter, containing the hydrogen cyanide in it, which prevents the storage of iodine in the body and thereby stimulates the growth of the thyroid gland, as Dr. Mühlig explained to me. The content of hydrogen cyanide can be partly or completely reduced, depending on the processing, e.g. by long cooking or frying.

Manioc harvest....

and processing into cassava flour

Dr. Edward Mintah, Ghanaian anesthetist from Berekum, is a long-time faithful companion to Dr. Mühlig's respective six-week assignments at various hospitals in Ghana. Dr. Mühlig appreciates the very good and reliable cooperation with him. Dr. Mintah maintains a calm and courteous approach and treatment of the patients and the sometimes-involved medical staff.

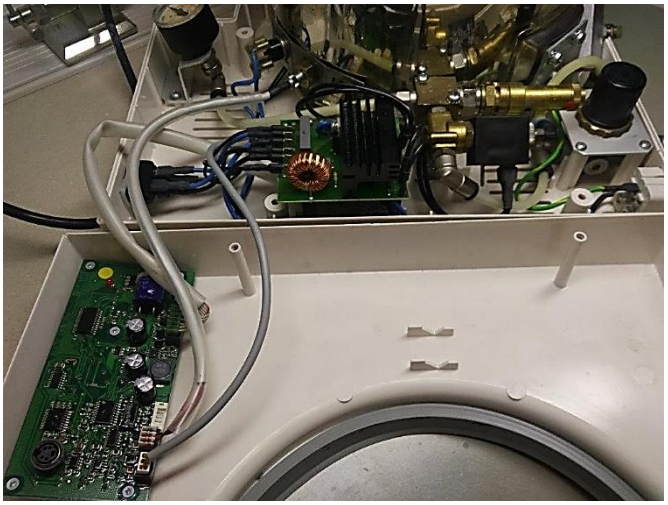
Lorenzo, the Italian, organized tickets for a charity event at the Italian embassy in Accra. Dr. Cyril Bansah, medical director of the hospital, offered himself as a chauffeur to drive with us three volunteers to Accra. 400 guests were admitted to this event, organized by various Ghanaian-Italian associations, admission 200.00 Ghana Cedi (CHF 40.00). Various delicacies from all over Italy, Italian music, tombola and speeches were offered. The net profit of this event will be attributed to various aid organizations in Ghana. Dr. Bansah preferred not to return to Sogakope at the late hour and spontaneously arranged an overnight stay for the four of us at his godfather's house in Accra, where we stopped already for a refreshment on the outward journey.

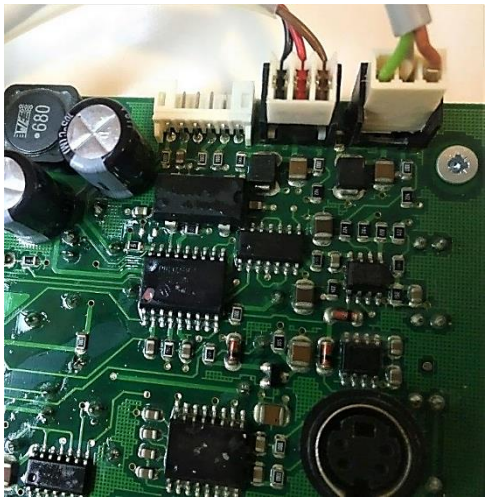
24.11.19 The polymerization device works again

Shortly before noon we had returned to Sogakope. Dr. Bansah did not choose the direct route but made a detour to Ada to the Aqua Safari Resort. A large hotel stands there, for recreation, various water, land and indoor activities, for big receptions and conferences, a nice place with sandy beach directly on the river Volta.

In Ada: Lorenzo Mazzucco Dr. Mühlig Dres. Mühlig & Bansah

In the meantime, Dieter had also contacted me via WhatsApp from his holiday trip and suggested that I should trim the micro plug of the sensor for the polymerization device so that it would fit into the designated contact in the electronic board. I had used the quiet Sunday afternoon to implement Dieter's proposal. My profession certainly met me for this procedure, to process this small, filigree object with our abrasives. However, it wasn't that simple. The material of the plug smeared more than it could be ground off. Thanks to do the working under microscope, I was able to reduce without injuring the fine contacts. In the evening I was rewarded, I made it! The device no longer showed any error messages and I was able to put everything together, test it, "é voile", it worked like new.





25.11.19 Visit to Rev. Fr Lt Col. WDK Sraha

Today, the laboratory has been working diligently on these predetermined training crowns. I showed to them my way of working, Jennifer and Atsu tried to do it with a lot of enthusiasm and had questions about questions. Together we prepared the crowns step by step for the pressing process and were able to press with the new press oven before noon. Dr. Akpaloo tried to download and print the firing table in English for the metal-ceramic dSign from Ivoclar, which is available in the laboratory.

Hans-Peter Spielmann

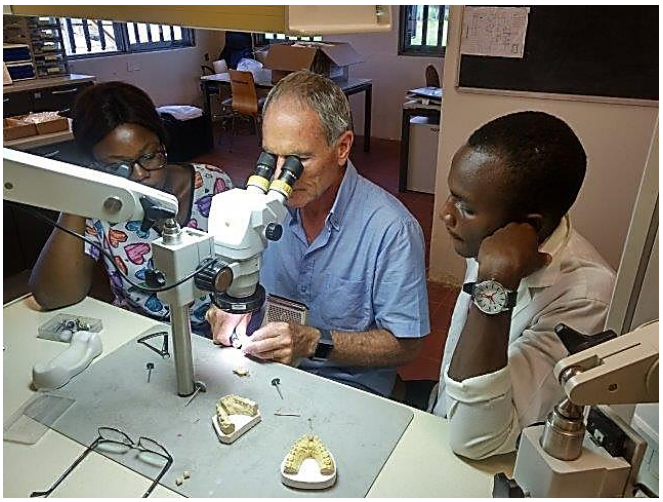
As promised, Mr. Lechner from Ivoclar had sent me a list of procedures for the defective ceramic press furnace via e-mail. I have followed this checklist, plugged out all the connections in the electronics of the device, reconnected after a thorough cleaning with alcohol. The hope was that perhaps only a dirty contact could be the cause of the problem. Unfortunately, this cleaning action has not led to any progress.

In the afternoon, I went with the hospital administrator Mr. Bansah to Akatsi, to see Rev. Fr Lt Col WDK Sraha. In Akatsi is the episcopal seat of the Diocese of Keta-Akatsi, in whose responsibility and administrative care also the Richard Novati Catholic Hospital belongs. Rev. Sraha is a former officer and clergyman of the army. Now he is the highest administrator of all Catholic hospitals and clinics within this diocese. After the very friendly reception and exchange of mutual ideas led by Mr. Bansah, the conversation focused on the laboratory in the dental clinic. Rev Sraha knew the laboratory, had already visited it, and he expressed a lot of enthusiasm about the facility. In return, I tried to express to him my concern about the maintenance of this very advanced, modern facility and that much greater efforts would have to be made for the longevity of it. We also discussed the need for broader use of the large laboratory. For example, also to execute orders from other hospitals, so that not everything would have to be sent to Accra with the high prices. Rev. Sraha also wishes to have a central medical diagnostic laboratory in the diocese, with the same reason, that laboratory samples and examinations could be made closer to their hospitals and not have to be sent to Accra. At the end of such discussions and wishes, as everywhere in the world, how and from where to get the financing for such projects.

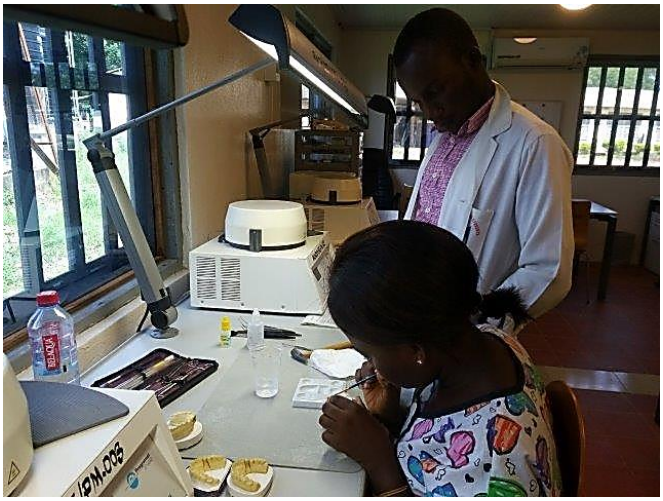
Hans-Peter Spielmann

26.11.19 Watch-learn-follow and imitate

We made good progress with the training in the laboratory. I showed how to do it and my "students" tried to follow as they saw and were told to do it. This includes the correct choice of the production material, the use of the corresponding instruments and the forming and refining with the appropriate abrasives for each specific work step.



Operation of the ceramic furnace



Making ceramic crowns

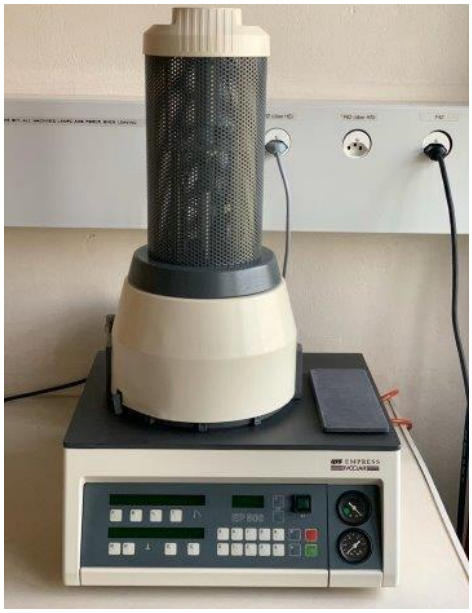
Quiet and concentrated

Hans-Peter Spielmann

27.11.19 The new power supply and emergency power supply works

Last November, the entire power grid conversion as well as the new emergency power system of the hospital, built by volunteers from GSHT, local craftsmen and technicians of the HTU, were put into operation. The emergency power system works perfectly. In the event of power interruptions, the diesel-powered emergency generators switch on quickly and supply the entire hospital with the necessary energy. About two-thirds of the plant so far has already been built and consists largely of dismantled installations of commercial buildings in Switzerland, which have been rebuilt here at the hospital. I have already written about this important and helpful project in previous reports. It was a great pleasure for me to be able to experience the reliable function of this large and elaborate work. I was very surprised to see how the new low-voltage and distribution center was also visited by students of the Technical College (vocational school) for learning and practice purposes.

My replacement compressor from Agogo arrived just in time, courier costs 20.00 Ghana Cedi (CHF 4.00). Ruedi Eggenberger from GSHT, currently also in in Ghana on duty, found out for me where the compressor, which I was able to send to Ghana with the last container, landed. To my great relief, he was found. I urgently needed this compressor so that I could correctly install the ceramic press oven, I brought with me, and supply it with the necessary compressed air.



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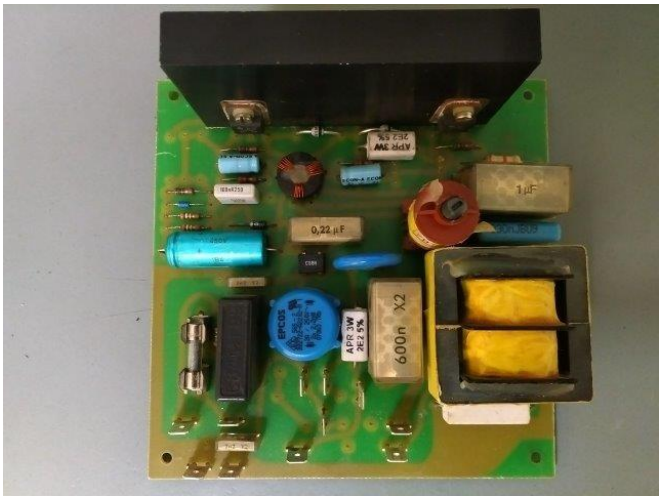
Jennifer and Atsu were busy with the final finish of the crowns until noon. The result can be seen, and I was very happy with it. The two hopeful young technicians have received a good basic training in ceramic processing the past week. Now they must continue to work and train in their interest to get experience and routine, with the aim that they can soon offer their knowledge and skills to patients of the dental clinic.

4 IPS e.max ZirPress all ceramic crowns, 2 metal ceramic crowns with IPS dSign ceramics blendet

At 15:00 Kofi took me to Accra for the return flight to Switzerland. My luggage was a little lighter than when I arrived. Nevertheless, again, I carried equipment for repair with me, such as the broken top of the press furnace and the vacuum pump, the defective compressed air regulator for the compressor and the electronic board for the ultrasonic device with a short-circuit damage.



Hans-Peter Spielmann

Specific observations and comments

As always, the hospitality was very nice, you felt welcome. Everyone is always very helpful. We had a good, very productive week and were able to do a lot.

Much more attention needs to be paid to the maintenance of the equipment.

The failure of equipment due to carelessness, incorrect operations and careless handling of attempted repairs is far too great.

The hospital management is well advised to do everything possible to ensure that qualified technicians with good electronics expertise provide for the maintenance at the hospital.

The machine house behind the dental clinic, built for the large compressor of the dental clinic as well as a secure stand of the gas and oxygen bottles, is filled with all sorts of rubbish and discardable broken items. This must be cleared up and disposed. Only the staff of the dental clinic or persons authorized by the administrator should have access to this machine house. The door should be secured with keys.

The dental laboratory needs a strong boss who can lead, train and motivate the young technicians. As I observed, Henry is not able to do that. Henry is demotivated, much absent and makes many private phone calls during working hours. He is studying books in the laboratory for his training as a priest, this information was given to me; it did not happen during my presence. Becoming a priest is his decision and his right too, but not at the expense of his duties towards the hospital and the laboratory. With this laboratory, much more can be done than up to now, it needs someone who is passionate about it and willing to devote and engage.

Hans-Peter Spielmann

15. December 2019